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ABSTRACT

Components of preservice teacher training at the San Jose State University Demonstration Preschool Program are described in this paper. Based on the work of Jean Piaget, the program is intended to demonstrate the integration of six mildly to moderately handicapped preschool children into a class of 14 non-handicapped preschool children. The Piagetian approach used in the children's program is extended to the preservice model, which incorporates the Piagetian concepts of discovery learning, disequilibration, concrete experiences and reflection. This conceptual framework is put into practice through five components of preservice training: structured observations, practical experiences with children, discussions, recommended readings and reflective writing. Each of these components is briefly described. (Author/SS)

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A PIAGETIAN APPROACH TO PRESERVICE TEACHER TRAINING

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This paper was presented at the 10th Symposium of the Jean Piaget Society, Philadelphia, Pennsylvania, May 29-June 1, 1980.

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The purpose of this paper is to explain the preservice teacher training component at the San Jose State University Demonstration Preschool. The philosophical approach of the preservice component is an extension of the philosophical basis of the children's program. This philosophical basis is derived from the work of Jean Piaget.

The Demonstration Preschool Program was funded by the Bureau on Education for the Handicapped to operate from September, 1977 to May, 1980. The expressed purpose of the funding is to demonstrate the integration of six mild to moderately handicapped preschool children with fourteen non-handicapped preschool children.

The preschool program is based on the developmental theory of Jean Piaget. Each child is thought of as an initiator or motivator within a carefully, pre-planned environment in which each child can operate at his/her own developmental level. The goal of this interaction is the encouragement of self-directed learning for the child. The foundation for this approach is based on the process by which children learn as delineated by Piaget (1968). Piaget's theory does not give the teacher lesson plans or advocate what to teach (Neufeld, 1976). The focus is on how a child learns. In understanding the developmental stages of learning, the teacher can provide a meaningful learning environment for each child (Furth, 1970; Wadsworth, 1978).

In the Demonstration Preschool child's play in a prepared environment is seen as the modality by which children become actively involved with objects and people and explore and discover their concrete world. The specific goals of the program which support this active involvement are: interaction with peers, action on objects, movement in space and reflection.

The philosophical approach of the children's program is extended to the preservice model. Growth in teaching is seen as a developmental process to be facilitated and nurtured (Katz, 1977, 1979). The student teachers are seen

as an intergral part of the preschool program. Inherent in Piagetian theory are the concepts of discovery learning, disequilibration, concrete experiences and reflection (Piaget, 1977). These concepts form the preservice model.

The conceptual framework is facilitated through five components: structured observations, practical experiences with children, discussions, recommended readings and reflective writing. These five components organize the students' experiences in the preservice training and provide a foundation for further growth as educators.

Structured observations focus on several aspects of an educational setting for preschool children. They are designed to help the student translate the theoretical framework into a concrete reality. Observations are structured around the goals of the program, curriculum areas, staff dynamics and relationships, behavior management and specific children. As the student teachers become more involved in the program for children they are encouraged to continue their observations in a less structured format.

In moving from observation to participation, the practical experiences of the student teachers are graduated to help them gain confidence in working with children they actually become part of the adult/child ratio; they are not auxiliary. Beginning as helpers, the student teachers take on increased responsibilities for different parts of the curriculum, culminating in assuming full responsibility for the childrens' program during one week towards the end of the semester. These first hand experiences provide practical application of the concept model and opportunities for the student teachers to realize and develop their individual teaching style. It is a chance to experiment and gradually develop a philosophical stance towards teaching.

Discussions, both formal and informal, help to strengthen the student teachers' information base. Invited speakers provide different prespectives on the education of young children and specific curriculum areas. Informal

discussions center on special concerns and reflection on the day's/week's activities and observations. Feedback is provided by the staff on a variety of interactional situations occuring in the children's program. As the student teachers gain more experience and confidence they gradually contribute more and more information and insights to the discussion process.

Recommended readings reinforce and/or elaborate on different aspects of teaching young children. The readings may be both philosophical or practical in nature and are discussed as relevant. Topics which the readings may include are observation, curriculum development, mainstreaming, child development, discipline and the work of Jean Piaget.

Reflective writing provides the student teachers with an opportunity to record and reflect on their personal development as a teacher. Several samples from the journals of students appears below:

> Each child brings his or her own unique perceptions and means of expression to a work of art.
>
> When I first entered the preschool I thought it would bother some of the children that we would be observing. As time went on, I noticed that they are used to this... I tried to empathize with them but found it difficult to put myself in their places until I began to be evaluated and observed myself. At first it was a novel experience but gradually diminished as I became used to Liz taking data on me.
>
> Problem-solving activities occur frequently at the preschool. A good example was seen outside today. "R" was on one end of the teeter-totter, and five children were on the other side. As more children came and sat on the end with the large amount, the children discussed such questions as, "who needs to get off-why?" "Will it work now? No." One goes over to "R's" side. Activities that may appear as simple play are often a complex mixture of thinking and decision making.
>
> I find the atmosphere and structure of this preschool to be different from my previous experiences. It has been challenging to adapt myself to the format, and each day I feel more comfortable in reacting to the children and staff in this new way. I still have many techniques and procedures that I have to acquaint myself with, but I feel this is a wonderful experience in which I can learn about working with children who are self-motivated, as well as decide what my most comfortable teaching style is.

This paper has explained the preservice student teaching component at the San Jose State University Demonstration Preschool. The basic orientation of the preservice model is derived from the Piagetian framework of the preschool children's program.

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The Spaulding Teacher Activity Rating Schedule (STARS)
(Brief Form)

Categ. No.	Sym-bol	Description of Category
01	Non	Non-transactional with students
02	-	Disapproval (with aversive affect)
03	T/O	Time-out (withholding reinforcement by removal)
04	Ign	Withholding attention (ignoring specific acts)
05	+	Approval (with positive affect)
06	S	Setting performance goals, limits, actions & procedures
07	R	Reminding & redirecting regarding limits, goals & procedures
08	Digr	Digressions
09	Lo↑	Concept formation or attainment by discovery methods (low level)
10	Hi↑	Complex concept formation or attainment by discovery methods
11	Lo↓	Concept formation or attainment by deductive methods (low level)
12	Hi↓	Complex concept formation or attainment by deductive methods
13	→	Concept formation or attainment by transductive methods
14	TLo	Concept formation or attainment by expository methods (low level)
15	THi	Complex concept formation or attainment by expository methods
16	RP	Concept formation or attainment by rote process
17	Mot/Inf	Motivational statements and/or incidental information
18	F	Focusing attention
19	ARLo	Asking for recall of low level facts or information
20	ARHi	Asking for recall of complex concepts or principles
21	AULo	Asking use of low level facts or information
22	AUHi	Asking use of complex concepts or principles
23	ExV	Expressing values, needs, opinions, feelings, etc.
24	ElV	Eliciting values, needs, opinions, feelings, etc.
25	L/O	Listening and/or observing

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Descriptions of STARS Teaching Styles

STARS Key # Name & Description

1. The Story Teller. This teaching pattern consists of 5 transactions. Children (students) listen attentively while the teacher reads, narrates, explains, and tells (6a/TLo) or while he/she motivates them to pay attention and share or contribute (6a/Mof). Three other transactions include the sharing or contributing by children followed by teacher telling (7a/TLo), motivation (7a/Mot), or observing and listening (7a/L/O).

   In this teaching style the teacher tells or reads and the students listen attentively or contribute. The teacher also motivates the students to contribute and he/she listens to the contributions of the students. The pattern does not include teaching transactions in which students are not attentive or contributing or sharing appropriately. A typical setting is story time in a Kindergarten or preschool. It would also characterize reading to older students who are contributing or sharing appropriately.

2. The Lecturer. In this teaching pattern the instructor tells, explains, describes, illustrates, etc., while students either attend minimally or engage in various inappropriate activities. They may fool around, read to themselves, watch other students, talk to or interact with each other (off-task), daydream, or gaze around at movements and noises in the room. The instructor reminds those who are not listening attentively to pay attention. He/she may also ask the students to recall or apply abstract concepts that he/she has been describing or explaining.

3. The Examiner. The Examiner focuses student attention on content areas and asks for recall or application of specific information. Both high level and low level cognitive operations are requested. The students submit passively to the requests for recall and application and contribute or recite as requested. The teacher praises or otherwise rewards those students who respond as directed.

4. The Entertainer. In this teaching pattern the teacher frequently digresses from the subject matter while the students pay close attention, frequently contributing digressions of their own or interacting integratively with the teacher or with each other. The teacher also expresses his or her own point of view, opinions, or values, along with the digressions from the academic subject-matter at hand.

5. The Controller. The Controller uses negative control techniques, such as criticism and threat of punishment, to keep students on-task. That is, students who are appropriately engaged are ignored, or at least not reinforced for being on-task. Positive control techniques (such as praise or other rewards for appropriate behavior) are not a characteristic of this management style. When students are observed to be off-task, inattentive, distracted, drowsy, or wandering about they are reprimanded and redirected with negative affect (scored as "-" rather than "R" because of the affective charge given the redirection).

6. The Counselor. The Counselor responds to the help-seeking behaviors of students by listening to their requests, setting goals and procedures, giving reinforcers, redirecting behavior, reminding them of previously set procedures or standards, motivating them to follow procedures or guidelines, and/or eliciting their opinions, feelings, attitudes, or values.

7. The Pseudo-Peer. Teachers who show the Pseudo-Peer pattern attend to and reinforce the integrative off-task and disruptive behavior of students. They also respond to such behavior by digressing and expressing their personal opinions, values, and attitudes.

8. The Discovery Teacher. The Discovery Teacher focuses the attention of students on specific items or arrays of concrete material or representational data and elicits categorization, grouping, or sorting activities. Recall or application of specific items or data relevant to the inductive process (as perceived by the instructor) may also be requested. The instructor may frequently motivate the students to pay attention and structure their responses by describing goals, objectives, steps, materials, etc,, to facilitate the induction of concepts.

9. The Socratic Teacher. Instructors using Socratic techniques focus on "givens" and request deduction of logical implications to be drawn from designated factual information and/or premises. The "givens" may be concrete or abstract. The Socratic teaching style includes requests for recall of specific premises, information, or principles and the use of such specifics in the process of deduction and in generalizing beyond the premises or specific information given. Hypothesis generation from observed phenomena (or reports of phenomena) and testing of such hypotheses are characteristic of this pattern.

10. The Manager. This is a management style rather than an instructional or counseling style. It is based on principles of behavior modification and contains the basic, common elements of the 5 CASES treatment schedules (identified as STARS patterns 13 through 17, inclusively). The Effective Manager uses an appropriate time-out procedure when students are physically or verbally abusive, or when they are seriously disruptive of normal classroom processes (CASES categories 1 and 2). They also are aware of a variety of manipulative and off-task behaviors which they choose to ignore, while awaiting on-task and other appropriate behaviors to reinforce. They respond to the appropriate help-seeking by giving structure (citing procedures, steps, objectives, materials to use, etc.) and listen to (or observe) attentively student-initiated on-task or help-seeking behavior.

11. The Expository Teacher. This instructional style is characterized by student attentiveness and on-task integrative behavior. Students listen attentively, contribute appropriately, or engage integratively in discourse with the teacher or other students regarding the topic under discussion. The teacher tells, motivates, focuses attention, and asks students to apply the information given or produced. The Effective Expository Teacher may describe and explain concepts at a low cognitive level (e.g. memory of facts or use of simple rules regarding one-to-one correspondence) or at a higher level (e.g. application of principles or rules regarding relationships between two or more variables which co-vary).

Key #

12. Rote Process. Rote Process is the label for a teaching style in which bits of information are given in a repetitious manner to be memorized by the student. The process is fixed and mechanical, not requiring thought. Spelling or number fact drills are common examples of this pattern or style of instruction. Students are attentive to the directions and cues given and respond submissively and appropriately when asked to recite or respond in writing. The teacher may also request the students to make use of the information given in practice exercises which require memory (of patterned drills and discrimination of appropriate responses).

13. Style A Treatment. The CASES treatment schedule designed for Style A pupils (dominative, actively aggressive, annoying, bothering, controlling, manipulative) includes prescriptions regarding curriculum as well as behavior management. The STARS teaching pattern key for the Style A Treatment focuses on the management dimensions of the schedule. The teacher who uses the Style A Treatment schedule employs a suitable "time-out" procedure in response to dominative, annoying, bothering, aggressive, or manipulative behaviors of pupils. Resistance, off-task behaviors, inappropriate help-seeking, daydreaming, physical and visual wandering behaviors are ignored. Teachers using this management style attend to and reinforce leadership (3a) and task-appropriate behavior (5a, 6a, 7a, 8a, 9a, 10) and provide task guidelines and logistical support (S) to students seeking assistance or following directions appropriately. This management style also includes motivational statements, questions regarding the cognitive status of the learners, and inquiries about their attitudes, opinions, and beliefs (when they are on-task).

14. Style B Treatment. The treatment for Style B (resistant, delaying, off-task, peer-oriented) students has many elements in common with the Style A treatment schedule. The primary difference lies in the absence of emphasis on conformity and submissiveness to authority. Such submissiveness is ignored rather than required and/or reinforced. In addition, the management pattern for Style B omits motivational comments to those students who exhibit leadership (3a) or adult attentive behaviors (6a) since such teacher behaviors tend to increase resistance and delay in conforming to instructions.

15. Style C Treatment. The treatment schedule for Style C (passive, withdrawn, dreamy) students may also be readily distinguished by comparing it with the treatment for Style A pupils. The treatment for Style C omits "time-out" as a technique to control behavior. Instead, all inappropriate behaviors are weakened by ignoring them when they occur and by reinforcing all appropriate behaviors. Structure (guidelines, steps, procedures, objectives, task-analyses, and designation of models) is increased in response to all pupil requests, whether appropriately phrased or sequenced or not. Since these students (Style C) tend to be overly submissive and docile they are not rewarded for such behavior; instead, they are given structure and motivated to proceed more independently.

Key #

16. Style D Treatment. Students who display Style D are peer dependent, distractible, and frequently off-task in response to the activities of peers. The treatment schedule calls for the same teacher responses characteristic of the Style A treatment, with the addition of structuring responses (verbalizing of guidelines, steps, procedures, objectives, etc.) paired with reinforcements in response to appropriate student behavior (5a, 6a, 7a, 8a). When Style D students are distracted (watching peers) the treatment calls for eliciting their attitudes, opinions, or beliefs (to be followed by increases in structure and reinforcers for on-task behavior).

17. Style E Treatment. Style E (attentive, adult-oriented, compliant) students are found to respond to a treatment very similar to that designated for Style C pupils. The primary difference is in the degree of structure provided. Rather than respond to adult dependence and inappropriate requests for assistance (9b) by giving guidelines, procedures, steps, etc., the treatment calls for the ignoring of inappropriate help-seeking. Appropriate requests for assistance (9a) are rewarded, but logistical guidelines are not given. Instead, the student is motivated to work out the problem using his/her own resources. The teacher may also respond to any task-appropriate behavior (5a, 6a, 7a, 8a) by motivating the student to discover the next steps in the task at hand on his/her own or to examine the cognitive processes he/she is experiencing to identify patterns, principles, or generalizations.

    The treatment for Style E behavior leads to an increase in Style F (assertive, socially integrative, task-oriented) or Style G (independent, self-motivated, task-oriented) behavior as appropriate to the setting and subject matter. Thus, the same treatment is used for all three styles.

18. The Responsive Explainer. This is an instructional style which is characterized by student initiated help-seeking and conformity to teacher direction. The Responsive Explainer responds to requests for assistance (9a, 9b) by giving increased structure (citing procedures, steps, objectives, materials to use, etc.); by explaining, describing, telling characteristics or attributes of concepts or principles; by motivating the students to use their own problem-solving skills; or by focusing student attention on selected dimensions or facets of the task at hand. The Responsive Explainer may also, at times, give structure, explain, motivate, or focus the attention of students who are submissively responding to directions (without waiting for specific requests for assistance).

19. The Supportive Guide. The Supportive Guide combines reinforcement for self-directed on-task behavior (5a) with support and structure for help-seeking (9a or 9b). Students who request assistance (either appropriately or inappropriately) are given structure (objectives, procedures, steps to take, materials to use, etc.) or are reminded of structure given previously. They are also motivated to apply their energies to the task. Appropriate help-seeking (9a) is also reinforced by verbal rewards (praise) and by assistance in the form of encouragements, teacher statements focusing on relevant details of the task, and requests for recall of specific relevant bits of information needed to solve the problem or complete the task. In contrast to the Responsive Explainer, the Supportive Guide does not tell, explain, or describe the answers or solutions to the problem at hand.

Key #

20. The Egocentric Instructor. With the exception of the use of aversive techniques and frequent citing of rules and standards for classroom behavior as a means of controlling pupil aggression and manipulative behavior in the classroom, this style is characterized by the teacher's digression from the subject matter at hand. The Egocentric Instructor not only voluntarily strays off-task, but is drawn into digression by student initiated off-task comments and digression (7b). The Egocentric Instructor identifies the subject matter to be investigated or discussed, but is easily diverted by topics or issues of personal interest.

21. Transductive. The Transductive Teaching Style is composed of three teacher behaviors - focusing on specific items or arrays of concrete material or representational data; asking for analogies or metaphors; and asking for applications of such analogies and metaphors in novel situations or settings. These teacher behaviors are responsive to the task-appropriate behaviors of students (5a, 6a, 7a, 8a, and 9a). Thus, a transductive teaching pattern includes focusing the attention of task-oriented students (5a, 6a, 7a, 8a, and 9a) on relevant items or arrays of data, soliciting analogical or metaphorical responses from them, and asking them to make use of such analogies and metaphors in problem-solving activities.

22. The Structuring Supervisor. The Structuring Supervisor responds, primarily, to students who are off-task. When they are on-task he/she remains observant but non-transactional. When students are observed to be off-task, he/she often gives structure (cites objectives, procudures, steps to take, materials to use, places to work, etc.). He/she does not remind them of rules and standards of behavior, but relies on the giving of structure and specific questioning to keep the students on-task. When questioning is used, the Structuring Supervisor asks students to recall relevant facts or to use specific bits of information as they attempt to complete the assigned task.

    This teaching style is likely to be found dominant when data are gathered in an individualized or program-directed setting on just one student, as in a case study. As the teacher responds to other students (who may have been off-task) the subject of the case study may be on-task (or assumed by the teacher to be on-task) and the teacher will be observed to be non-transactional with the subject.

23. Field Sensitive Teaching Style. The basis for the current characterization of "field sensitive" teaching (and its companion style - "field independent" - to be described next in Key # 24) is to be found in New Approaches to Bilingual, Bicultural Education by Castaneda and Ramirez (1975). The "field sensitive" teacher encourages and supports integrative and cooperative social interaction. He/she responds supportively to requests for assistance even if expressed inappropriately. The Field Sensitive Teacher gently restructures (reminds, cautions, guides) students who are integratively off-task (playfully interacting) or involved in inappropriate self-directed activity. Negative or aversive control techniques are characteristically not used by the Field Sensitive Teacher.

Instruction is expository and direct, supported by frequent motivational comments, learning cues, and focusing techniques. Students are frequently asked to recall and apply facts and concepts. The Field Sensitive Teacher also encourages the expression of values and personal opinions. He/she supports students who express their feelings and interests and responds integratively, by sharing his/her own feelings and points of view.

In summary, the Field Sensitive Teacher:

- displays physical and verbal expressions of approval
- uses personalized rewards
- expresses confidence in child's ability to succeed
- responds to children who are having difficulty
- guides and explains in step-by-step fashion
- uses modeling as an instructional technique
- encourages cooperative learning and group support
- relates learning tasks to personal lives of students
- models problem-solving strategies in daily lessons
- draws generalizations from the data presented
- humanizes the content of instruction and adapts it to the lives of the students in the class

24. Field Independent Teaching Style. As currently defined the "field independent" teaching style is based on distinctions made by Castaneda and Ramirez in their book New Approaches to Bilingual, Bicultural Education (1975)

The "field independent" teacher reinforces self-directed, task-oriented, independent behavior in students. Social interaction is not encouraged and students who initiate interaction are redirected toward independent activity. Instruction is focused upon self-discovery of concepts, principles, and generalizations through use of inductive, deductive, and analogical (transductive) techniques. The "field independent" teacher checks on skill and knowledge aquisition by testing for recall of facts and concepts and the application of principles and generalizations in transfer of learning tasks.

In summary, the Field Independent Teacher:

- is formal in relationship with students
- maintains a direct, authoritative instructional manner
- centers attention on the cognitive task or instructional objectives at hand
- encourages independent student achievement
- encourages competition between students
- teaches problem-solving strategies and analytical skills
- emphasizes abstract principles and generalizations as the outcome of learning
- emphasizes measurement and quantification in processing information
- uses inductive, deductive, and transductive discovery techniques
- discourages group-process techniques as modes of learning in the classroom

Key #

25. The Director. The Director sets limits and gives directions to students and they comply with his/her instructions. He/she also reminds students of the rules, expectations, limits, and procedures set down previously as guidelines or standards for behavior (in a positive, gentle way). Students who ask for assistance or guidance are given appropriate rules, guidelines, or specific procedures to follow. When students are off-task the Director may gently redirect them by suggesting alternative activities or by making changes in their assignments. The teacher may physically guide or physically redirect them in a gentle way. Negative affect is characteristically not a feature of this management style.

Table III

Distribution of Visible STARS Styles Observed in the Model Preschool Demonstration Project (1977-79)

STARS Style I.D.	Teacher 02				Teacher 32				5 Students Fall 1978				2 Students Spring 1979				2 Students Fall 1979				10 Parents 1978-1979	
	T.D.		P.D.		T.D.		P.D.		T.D.		P.D.		T.D.		P.D.		T.D.		P.D.		T.D.	
Group I	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1 Narrator	9	(69)			4	(20)			1	(25)	1	(6)	7	(47)			1	(50)			1	(10)
8 Discovery	1	(8)			2	(10)	1	(14)					3	(20)								
9 Socratic							1	(14)					1	(14)								
10 Manager			1	(14)							1	(6)	1	(14)	1	(10)					2	(20)
11 Expositor	9	(69)	2	(29)	9	(45)	3	(43)	2	(50)	2	(13)	11	(73)	1	(10)	1	(50)	1	(50)	1	(10)
13 Style A	1	(8)	2	(29)	1	(5)	3	(43)			2	(13)	2	(13)	2	(20)					2	(20)
14 Style B	1	(8)	4	(57)	3	(15)	2	(29)			10	(63)	2	(13)	6	(60)					4	(40)
15 Style C	1	(8)	4	(57)	2	(10)	3	(43)			3	(19)	2	(13)	3	(30)	1	(50)			4	(40)
16 Style D	1	(8)	3	(43)	4	(20)	3	(43)			2	(13)	2	(13)	1	(10)					4	(40)
17 Style E/F/G	1	(8)	6	(86)	7	(35)	5	(71)			13	(81)	3	(20)	7	(70)	1	(50)	1	(50)	6	(60)
19 Supportive Guide																						
21 Transductive																						
Group II																						
23 Field Sensitive																						
24 Field Independ.			1	(14)																		
3 Examiner																						
4 Entertainer																						
6 Counselor																						
12 Rote Process																						
18 Responsive Exp.							1	(14)														
Group III																						
2 Lecturer																						
22 Struc. Super.					1	(5)																
25 Director					1	(5)							2	(13)	1	(10)						
Group IV																						
20 Egocentric											1	(6)										
7 Pseudo-peer					1	(5)																
5 Controller																						
No visible Style Found	3	(23)			5	(25)	2	(29)	2	(50)	1	(6)			2	(20)	1	(50)			2	(20)
Total No. of Observations	13	(100)	7	(100)	20	(100)	7	(100)	4	(100)	16	(100)	15	(100)	10	(100)	2	(100)	2	(100)	10	(100)

Note: Percentages given exceed 100% since more than one style are frequently found visible. Empty cells represent zero frequencies.

T.D. = Teacher-directed settings.

P.D. = Program-directed (or non-teacher-directed) settings.